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10/764,145	01/23/2004	Jurgen Morton-Finger	22780	6066
535 K.F. ROSS P.C	7590 05/12/200	EXAMINER		
5683 RIVERDA	ALE AVENUE	WOLLSCHLAGER, JEFFREY MICHAEL		
SUITE 203 BO BRONX, NY 1			ART UNIT	PAPER NUMBER
			1791	
			MAIL DATE	DELIVERY MODE
			05/12/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

		Application No.	Applicant(s)			
Office Action Commence		10/764,145	MORTON-FINGER, JURGEN			
	Office Action Summary	Examiner	Art Unit			
		Jeff Wollschlager	1791			
Period fo	The MAILING DATE of this communication ap or Reply	pears on the cover sheet with the	correspondence address			
WHIC - Exter after - If NC - Failu Any (ORTENED STATUTORY PERIOD FOR REPLEHEVER IS LONGER, FROM THE MAILING DISTRICT IN THE MAILING DEPLY WITH THE M	NATE OF THIS COMMUNICATION 136(a). In no event, however, may a reply be will apply and will expire SIX (6) MONTHS from the cause the application to become ABANDON	DN. timely filed m the mailing date of this communication. IED (35 U.S.C. § 133).			
Status						
1) 又	Responsive to communication(s) filed on <u>28 E</u>	December 2007				
•		s action is non-final.				
′=	Since this application is in condition for allowance except for formal matters, prosecution as to the merits is					
٠,١	closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.					
Dispositi	on of Claims					
· · ·	Claim(s) 16-44 is/are pending in the application	on				
•	4a) Of the above claim(s) is/are withdrawn from consideration.					
	5) Claim(s) is/are allowed.					
•	6)⊠ Claim(s) <u>16-44</u> is/are rejected.					
	Claim(s) is/are objected to.					
•	Claim(s) are subject to restriction and/o	or election requirement.				
	on Papers	'				
•	The specification is objected to by the Examine					
10)	The drawing(s) filed on is/are: a) acc					
	Applicant may not request that any objection to the	- · · ·	, ,			
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).						
11)	11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.					
Priority ι	ınder 35 U.S.C. § 119					
a)[Acknowledgment is made of a claim for foreign All b) Some * c) None of: 1. Certified copies of the priority document 2. Certified copies of the priority document 3. Copies of the certified copies of the priority document application from the International Burea see the attached detailed Office action for a list	ts have been received. ts have been received in Applica prity documents have been receiv nu (PCT Rule 17.2(a)).	ntion No ved in this National Stage			
Attachmen		🗖 .				
	e of References Cited (PTO-892) e of Draftsperson's Patent Drawing Review (PTO-948)	4)				
2) Notice of Drainsperson's Patent Drawing Review (PTO-946) 3) Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 5) Notice of Informal Patent Application 6) Other:						

DETAILED ACTION

Response to Amendment

Applicant's amendment to the claims filed December 28, 2007 has been entered.

Claims 16 and 21 are currently amended. Claims 30-44 are new. Claims 1-15 have been canceled. Claims 16-44 are pending and under examination.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 16-44 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Regarding claims 16, 34 and 40, the claims recite "and with no substantial pretreatment". There does not appear to be support for the broad limitation in the original disclosure. The examiner notes that the original disclosure appears to have support for a process that excludes "pre-crystallization" and "pre-drying" prior to being fed to the extruder, but does not convey possession of no substantial pretreatment at all, for example, shredding of material prior to feeding to the extruder. Claims 17-33, 35-39 and 41-44 are rejected as dependent claims.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 16-44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claims 16, 34 and 40, the claims recite "and with no substantial pretreatment". The limiting effect of the recitation is unclear. It is unclear what pretreatments are excluded from the limitation. Said differently, it is unclear which types of pretreatments do constitute a "substantial pretreatment" step and which types of pretreatments do not constitute a "substantial pretreatment" step. Claims 17-33, 35-39 and 41-44 are rejected as dependent claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 16-18, 21-23, 25, and 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (US 6,409,949) in view of either of Scarlett (US 2,823,421) or Ishikawa (US 5,176,861) and in view of either of Bentivoglio (US 6,153,093) or Rosato (Extruding Plastics – A Practical Processing Handbook, 1998) and in view of Hills (US 4,849,113).

Regarding claim 16, Tanaka et al. teach a method of extruding reproduced/recycled PET flakes in a twin-extruder (col. 4, lines 32-35) and degassing the melt in the extruder (col. 4, lines 42-46; col. 6, lines 15, 27-31). Tanaka et al. disclose spinning the melt coming out of the extruder through a die, not limited to pelletizing, to make a desired product (Table I; col. 4, lines 47-55; col. 6, lines 42-47), but do not teach extruding the material in strip form to make a

packaging web or the recited control scheme relative to the filter. The examiner notes that in one interpretation, reproduced/recycled PET flakes intrinsically contain some degree of contamination/dirt.

However, Scarlett et al. (Figure 1 and Figure 2; col. 1, line 18-col. 2, line 41) teach a method of stretching and cooling extruded PET to produce a packaging film and Ishikawa et al. (Abstract; Figure 1; col. 1, line 14-col. 2, line 67; Example 1) teach a method of extruding a film/sheet of PET from recycled bottles and stretching and cooling the film.

Furthermore, Bentivoglio (Abstract; col. 1, lines 10-16; col. 2, lines 8-67; col. 3, lines 56-64) and Rosato (pages 84-89) each teach extruding resins through a filter, backflushing the contaminants/dirt from the filter in response to differential pressure across the filter which increases the time between complete filter changes. Additionally, Hill discloses as conventional, adjusting extruder speed, as required, to account for the increased clogging of a filter downstream of the extruder (col. 13, line 63 – col. 14, lines 44).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have modified the method disclosed by Tanaka et al. and to have produced a film product as suggested by either of Scarlett or Ishikawa for the purpose of producing a suitable and viable product.

Further, it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have employed a backflush filter, as suggested by either of Bentivoglio or Rosato for the purpose of increasing production output and increasing the time between filter changes. Additionally, it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have adjusted the extruder speed as the filter became plugged, as disclosed as conventional by Hills, for the purpose of maintaining a constant extruder output/output pressure.

As to claim 17, Ishikawa et al. employ PET bottles as a raw material (col. 2, lines 25-28).

As to claim 18, Tanaka et al. teach that the PET is supplied to the extruder with a metering screw (col. 4, lines 40-42).

As to claim 21, Ishikawa et al. disclose a twin extruder rotating in the same direction (col. 2, lines 44-50).

As to claim 22, Tanaka et al. teach connecting a vacuum pump to the extruder-degassing vent (col. 4, lines 42-44).

As to claim 23, Tanaka et al. teach feeding a chain-lengthening substance to the interior of the extruder (col. 6, lines 20-22; col. 4, lines 45-51).

As to claim 25, Tanaka et al. feed the melt to the downstream process with a gear pump (col. 4, lines 50-55).

As to claims 28 and 29, Hills discloses adjusting the extruder speed (col. 14, lines 1-20). Further, it is noted that the feed rate to the extruder would be adjusted/controlled to zero when the screens needed to be ultimately changed after many backflushes (Rosato, pages 84-89).

As to claims 30-32, Scarlett teach two stretching devices (A-E) and (F-J) corresponding to disclosed elements (19) and (20). Additionally, Scarlett heats the film above 80 °C (col. 2, lines 34-70). The examiner notes that the glass transition temperature of PET is about 69 °C. Additionally, Scarlett teaches the heated temperature effects the ability to stretch the film (col. 3, liens 45-55; Table 1) and as such is a result effective variable that would have been readily optimized. After heating, Scarlett further stretches the film (Figure 2) and then heat sets/fixes the film (Figure 2). Finally, the film is cooled and wound. It would have been obvious to one having ordinary skill in the art at the time of the claimed invention to have modified the method of Tanaka et al. and to have stretched, heated, and cooled the film as taught by Scarlett for the purpose of effectively yielding a suitable film.

Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (US 6,409,949) in view of either of Scarlett (US 2,823,421) or Ishikawa (US 5,176,861) and either of Bentivoglio (US 6,153,093) or Rosato (Extrusion Processing) and in view of Hills (US 4,849,113), as applied to claims 16-18, 21-23, 25, and 28-32 above, and further in view of Bandera et al. (US 6,583,261).

As to claims 19 and 20, the combination teaches the method as set forth above. The combination employs a twin-screw extruder, which are conventionally starve fed, but does not expressly teach the degree the flights are filled. However, Bandera et al. analogously teach that the degree of flight filling impacts the efficiency of venting while extruding PET (Abstract; col. 2, lines 17-65; col. 3, lines 13-17).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have optimized the degree of flight filling in the method disclosed by Tanaka et al. for the purpose of controlling the extent and effectiveness of the venting since Bandera et al. suggest that the degree of flight filling is a result effective variable for venting during PET extrusion processes.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (US 6,409,949) in view of either of Scarlett (US 2,823,421) or Ishikawa (US 5,176,861) and either of Bentivoglio (US 6,153,093) or Rosato (Extrusion Processing) and in view of Hills (US 4,849,113), as applied to claims 16-18, 21-23, 25, and 28-32 above, and further in view of VanBuskirk et al. (US 5,281,676).

Regarding claim 24, Tanaka et al. teach feeding at least one chain-lengthening substance as set forth above, but do not explicitly teach the chain-lengthening substance is a

lactam or oxazole derivative. However, VanBuskirk et al., teach processing PET with lactam derivatives as the chain-lengthening substances (col. 3, lines 24-31; col. 4, lines 31-52).

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Therefore it would have been *prima facie* obvious to one having ordinary skill at the time of the claimed invention to have employed the lactam derivative chain lengthening agent taught by VanBuskirk et al. in the method of Tanaka et al. because, as taught by VanBuskirk et al., lactam derivatives are well-suited for use as chain lengthening substances in PET applications and do not result in any undesired toxic byproducts such as phenol comprising compounds (col. 4, lines 46-52).

Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (US 6,409,949) in view of either of Scarlett (US 2,823,421) or Ishikawa (US 5,176,861) and either of Bentivoglio (US 6,153,093) or Rosato (Extrusion Processing) and in view of Hills (US 4,849,113), as applied to claims 16-19, 22, 23, 25, and 28-32 above, and further in view of Strobel et al. (US 6,585,920).

As to claims 26 and 27, the combination teaches the method as set forth above wherein the cooling is performed with a cooling drum. However, Strobel discloses that cooling drums and water baths are art recognized equivalent means for cooling extruded films (col. 6, lines 51-57).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have employed an art recognized equivalent method of cooling, such as a water bath, as suggested by Strobel in the combined method since it has been held that employing art recognized equivalents suitable for the same purpose is *prima facie* obvious.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (US 6,409,949) in view of either of Scarlett (US 2,823,421) or Ishikawa (US 5,176,861) and either of Bentivoglio (US 6,153,093) or Rosato (Extrusion Processing) and in view of Hills (US 4,849,113), as applied to claims 16-19, 22, 23, 25, and 28-32 above, and further in view of either of DeSmedt et al. (US 4,140,740) or Vogt et al. (US 6,589,463).

As to claim 33, the combination teaches the method set forth above. The combination does not teach after a plurality of stretching, cooling, and heating steps, performing one additional stretching step as claimed. However, each of DeSmedt et al. (Figure 2 (63) (64) (65) (66) and (67)) and Vogt et al. (Figure 1 (29) (30) (31)) individually teach a process of stretching PET films wherein a pulling/stretching step is performed after a heat setting/fixing step immediately prior to being wound in roll form.

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have modified the set forth by the combination and to have performed one additional stretching step as suggested by either of DeSmedt et al. or Vogt et al., for the purpose, as suggested by DeSmedt et al. of effectively slitting the extruded film, or for the purpose as suggested by Vogt et al. of facilitating the winding process.

Claims 34-38 and 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (US 6,409,949) in view of either of Scarlett (US 2,823,421) or Ishikawa (US 5,176,861) and in view of either of Bentivoglio (US 6,153,093) or Rosato (Extruding Plastics – A Practical Processing Handbook, 1998) and in view of Hills (US 4,849,113) and Pfaendner et al. (US 5,807,932).

Regarding claims 34, 35 and 40, Tanaka et al. teach a method of extruding reproduced/recycled PET flakes in a twin-extruder (col. 4, lines 32-35) and degassing the melt

in the extruder (col. 4, lines 42-46; col. 6, lines 15, 27-31). Tanaka et al. disclose spinning the melt coming out of the extruder through a die, not limited to pelletizing, to make a desired product (Table I; col. 4, lines 47-55; col. 6, lines 42-47), but do not teach extruding the material in strip form to make a packaging web or the recited control scheme relative to the filter.

Additionally, Tanaka et al. disclose employment of chain extenders, but do not expressly teach utilizing an oxazole derivative chain extending substance (col. 10, lines 1-24). The examiner notes that in one interpretation, reproduced/recycled PET flakes intrinsically contain some degree of contamination/dirt.

However, Scarlett et al. (Figure 1 and Figure 2; col. 1, line 18-col. 2, line 41) teach a method of stretching and cooling extruded PET to produce a packaging film and Ishikawa et al. (Abstract; Figure 1; col. 1, line 14-col. 2, line 67; Example 1) teach a method of extruding a film/sheet of PET from recycled bottles and stretching and cooling the film.

Furthermore, Bentivoglio (Abstract; col. 1, lines 10-16; col. 2, lines 8-67; col. 3, lines 56-64) and Rosato (pages 84-89) each teach extruding resins through a filter, backflushing the contaminants/dirt from the filter in response to differential pressure across the filter which increases the time between complete filter changes. Additionally, Hill discloses as conventional, adjusting extruder speed, as required, to account for the increased clogging of a filter downstream of the extruder (col. 13, line 63 – col. 14, lines 44). Further still, Pfaendner et al. disclose that oxazolines are known chain extenders suitable for increasing the molecular weight of recycled polyesters such as PET (col. 1, line 6-col. 2, line 38, in particular, col. 2, line 16; col. 6, lines 33-39)

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have modified the method disclosed by Tanaka et al. and to

have produced a film product as suggested by either of Scarlett or Ishikawa for the purpose of producing a suitable and viable product.

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Further, it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have employed a backflush filter, as suggested by either of Bentivoglio or Rosato for the purpose of increasing production output and increasing the time between filter changes. Additionally, it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have adjusted the extruder speed as the filter became plugged, as disclosed as conventional by Hills, for the purpose of maintaining a constant extruder output/output pressure. Additionally, it would have been obvious to one having ordinary skill in the art at the time of the claimed invention to have employed an oxazoline based chain extender in the method of Tanaka et al., as suggested by Pfaendner et al., since Pfaendner et al. suggest such materials are art recognized equivalent alternative chain extenders suitable for utilization with PET.

Claims 39 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (US 6,409,949) in view of either of Scarlett (US 2,823,421) or Ishikawa (US 5,176,861) and in view of either of Bentivoglio (US 6,153,093) or Rosato (Extruding Plastics – A Practical Processing Handbook, 1998) and in view of Hills (US 4,849,113) and Pfaendner et al. (US 5,807,932), 34-38 and 40-43, and further in view of either of DeSmedt et al. (US 4,140,740) or Vogt et al. (US 6,589,463).

As to claims 39 and 44, the combination teaches the method set forth above. The combination does not teach after a plurality of stretching, cooling, and heating steps, performing one additional stretching step as claimed. However, each of DeSmedt et al. (Figure 2 (63) (64) (65) (66) and (67)) and Vogt et al. (Figure 1 (29) (30) (31)) individually teach a process of

stretching PET films wherein a pulling/stretching step is performed after a heat setting/fixing step immediately prior to being wound in roll form.

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have modified the set forth by the combination and to have performed one additional stretching step as suggested by either of DeSmedt et al. or Vogt et al., for the purpose, as suggested by DeSmedt et al. of effectively slitting the extruded film, or for the purpose as suggested by Vogt et al. of facilitating the winding process.

Response to Arguments

Applicant's arguments filed December 28, 2007 have been fully considered, but they are not persuasive.

Applicant argues that Tanaka et al. do not teach forming a packaging web, but pellets, and do not teach utilizing a backflush filter. This argument is not persuasive. As an initial matter, the examiner notes that the secondary references teach the argued limitations.

However, the examiner does note that Tanaka et al. is not limited to forming pellets. Tanaka et al. teach the material may be pelletized or fed to a die and further post-processing equipment 11. The examiner notes that the disclosure of Tanaka et al. is directed in particular to the extrusion of recycled PET material and is clearly combinable with suitable "post-processing equipment" as is set forth in the combination.

Applicant argues that the film produced by Scarlett does not employ recycled PET and the film produced by Ishikawa is unusable as a packaging web. These arguments are not persuasive. As an initial matter, the examiner notes the rejection is based on a combination of references. Additionally, the films produced in the combination are readable on the recitation "packaging webs". The films produced are suitable for a wide variety of applications that would

reasonably constitute packaging. Additionally, the combination employs the same claimed steps in the same claimed manner with the same claimed materials. As such, the same claimed effects and physical properties (i.e. product with particular physical properties) are achieved by the practice of the combined method.

Applicant argues that neither Bentivoglio nor Rosato disclose monitoring pressure upstream and downstream of the filter and backflushing in accord with the pressure differential. This argument is not persuasive. The examiner notes that Bentivoglio teaches the frequency of backflush is "under the automatic control of pressure-differential sensors which detect when the filters are becoming clogged" (col. 3, lines 62-64). Additionally, Rosato disclose that pressure controls should be employed on either side of the filter/breaker plate (page 85), that in dirty applications the pressure drop is monitored continuously (page 86), and that in demanding service like extruding recycled materials backflush screen changers/filters are employed (page 88). The examiner submits that the teachings of pages 85 and 86 of Rosato regarding screen changers/breaker plates are clearly applicable and understood to be applied in even more challenging recycling applications such as where backflush filters are discussed on page 88 (see for example the classification of screen changers on page 86, 3rd paragraph, – which also includes backflush filters).

Applicant argues that Hill does not teach a plurality of claimed limitations. This argument is not persuasive. The examiner notes that Hill is applied for the conventional teaching of adjusting the rate in response to a plugging filter.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Wollschlager whose telephone number is (571)272-8937. The examiner can normally be reached on Monday - Thursday 6:45 - 4:15, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/J. W./ Examiner, Art Unit 1791

May 9, 2008

/Monica A Huson/ Primary Examiner, Art Unit 1791